



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,349	09/12/2003	William Frederick Dew JR.	033753/269257	6747

826 7590 08/05/2005

ALSTON & BIRD LLP  
BANK OF AMERICA PLAZA  
101 SOUTH TRYON STREET, SUITE 4000  
CHARLOTTE, NC 28280-4000

EXAMINER

CINTINS, IVARS C

ART UNIT	PAPER NUMBER
----------	--------------

1724

DATE MAILED: 08/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/661,349	<b>Applicant(s)</b> DEW, WILLIAM FREDERICK	
	<b>Examiner</b> Ivars C. Cintins	<b>Art Unit</b> 1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 18-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

*HC*

*AS*

Art Unit: 1724

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18-42, 44 and 45 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Wen et al. (U.S. Patent No. 4,157,959, hereinafter "Wen") in view of Masuda et al. (U.S. Patent No. 5,248,415, hereinafter "Masuda"). As pointed out in the previous Office action, Wen disclose an upflow filter having an actuating means for adjustably compressing filtration media from an expanded condition during cleaning (see Fig. 4) to a variably compressed condition during filtration, whereby a plurality of layers of filtration media are established, the layers being progressively more compressed in the flow direction (see Fig. 3). Accordingly, this primary reference discloses the claimed invention with the exception of the recited compressible filtration media, the multiple filter housings, and the air distribution means. Masuda discloses a filtration apparatus comprising a filter containing compressible filtration media of the type recited (see col. 1, line 27), multiple filter housings (see Fig. 1), and air distribution means (i.e. 10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the compressible filtration media of Masuda for the filtration media of Wen, since this secondary reference filtration media is capable of filtering particulate contaminants from a fluid in substantially the same manner as filtration media of the primary reference, to produce substantially the same results. Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the system of the thus modified primary reference with multiple filter housings, as further suggested by Masuda, in order to allow some

Art Unit: 1724

filtration cells to be cleaned while other cells continue to filter fluid, thereby providing continuous treatment of fluid in this modified primary reference filtration system. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the system of the thus modified primary reference with air distribution means, as further suggested by Masuda (see col. 4, lines 16-19), in order to assist in the cleaning of the filtration media of this modified primary reference filtration system. Moreover, it would have been obvious to one of ordinary skill in the art at the time the invention was made to select the recited filter bed porosity, bed depth, and compression ratio for the filter media of the modified primary reference system, in order to obtain filtration characteristics commensurate with these selections. Applicant should note that the recited flow rate and backwash flow rate (claims 27-29 and 36-38) are not structural limitations, and hence cannot be relied upon to patentably distinguish these apparatus claims.

Claim 43 is again rejected under 35 U.S.C. 103(a) as being unpatentable over Wen in view of Masuda as applied above, and further in view of Whetsel (U.S. Patent No. 5,362,384). As pointed out in the previous Office action, the modified primary reference discloses the claimed invention with the exception of the recited turbidity monitor. Whetsel discloses a filtration system having a turbidity monitor; and it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the system of the modified primary reference with the turbidity monitor of Whetsel, in order to determine the condition of the filtration media of this modified primary reference system.

Applicant's arguments filed May 20, 2005 have been noted and carefully considered but are not deemed to be persuasive of patentability. Applicant argues that it would not have been

Art Unit: 1724

obvious to substitute the compressible filtration media of Masuda for the filtration media of Wen, because Wen teaches using relatively dense granular materials such as sand and glass beads. It is pointed out, however, that while disclosing sand and glass as suitable granular media that can be used in its disclosed filtration system, Wen further teaches that a “wide variety of other granular filter media” may be utilized in this reference system. Accordingly, one of ordinary skill in the fluid filtration art would have been motivated to substitute the “granular” filtration material (i.e. lumps 6) of Masuda for the filtration media of the primary reference, since Wen clearly suggests that a wide variety of granular materials may be used in this primary reference filtration system.

Applicant also argues that the fibrous lump media of Masuda is in stark contrast to the filtration methodology disclosed in Wen. Again, this argument has been noted and carefully considered, but is not deemed to be persuasive of patentability. It is pointed out that while the fibrous media disclosed by Masuda may not have characteristics identical to sand or glass, this material is clearly capable of filtering solid contaminants from a fluid. Therefore, one of ordinary skill in the fluid filtration art would recognize that this secondary reference filtration material could be employed in the filtration system of the primary reference. Such a modification is deemed to be especially obvious in view of the clear disclosure by Wen that “[t]he density of the particles, as well as their size and shape, may be varied to control the filtration properties of the bed” (col. 6, lines 34-36).

Applicant further argues that Masuda teaches away from the proposed combination by disclosing that the fibrous lumps should be maintained in a dense and uniform layer during filtration. Once again, this argument has been noted and carefully considered, but is not deemed

Art Unit: 1724

to be persuasive of patentability. It is pointed out that while Matsuda may not recognize the desirability of utilizing a filter bed in a variably compressed condition during filtration, such that a plurality of progressively more compressed layers of filtration media are established, Wen clearly provides this teaching. Accordingly, one of ordinary skill in the fluid filtration art, given the teachings of both Wen and Masuda, would have been motivated to arrive at the combination proposed above, for the reasons given above.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is 571-272-1155. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Duane Smith, can be reached at 571-272-1166.

The centralized facsimile number for the USPTO is **571-273-8300**.

Art Unit: 1724

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**Ivars C. Cintins**  
**Primary Examiner**  
**Art Unit 1724**

I. Cintins  
August 4, 2005